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(54) Vehicle anti-theft device

(57) An anti-theft device for use with motor cars comprises a member in the form of a cross and made up of rigid metal bars (210, 213) intersecting one another at right angles, a case-hardened metal lock bar (218) slotted for sliding movement along one arm (215) of the stem (210) of the cross and having proud of its face then nearer the transverse bar (213) of the cross two pins (212) of case-hardened metal, one or one pair to each side of

said stem (210), and means for locking the lock bar (218) in position along said one arm, the dimensions of the parts being such that the cross can be positioned with its transverse bar below the foot brake and clutch pedal pads of a motor-car and with said one arm of the stem extending upwards between the two pads, and the lock bar then slid along the upwards-pointing said one arm of the stem and with the pins projecting downwardly until the lock bar rests on the foot brake and clutch control levers, and the lock bar locked in such position.

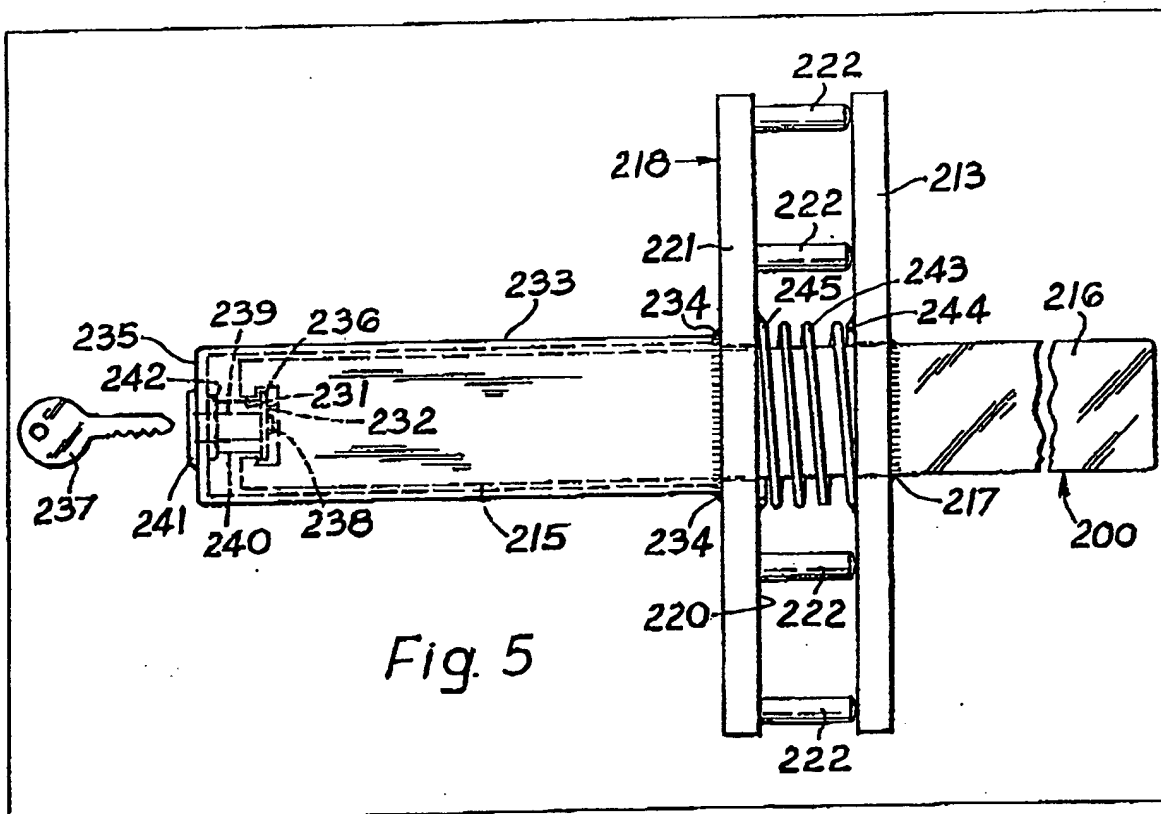


Fig. 5

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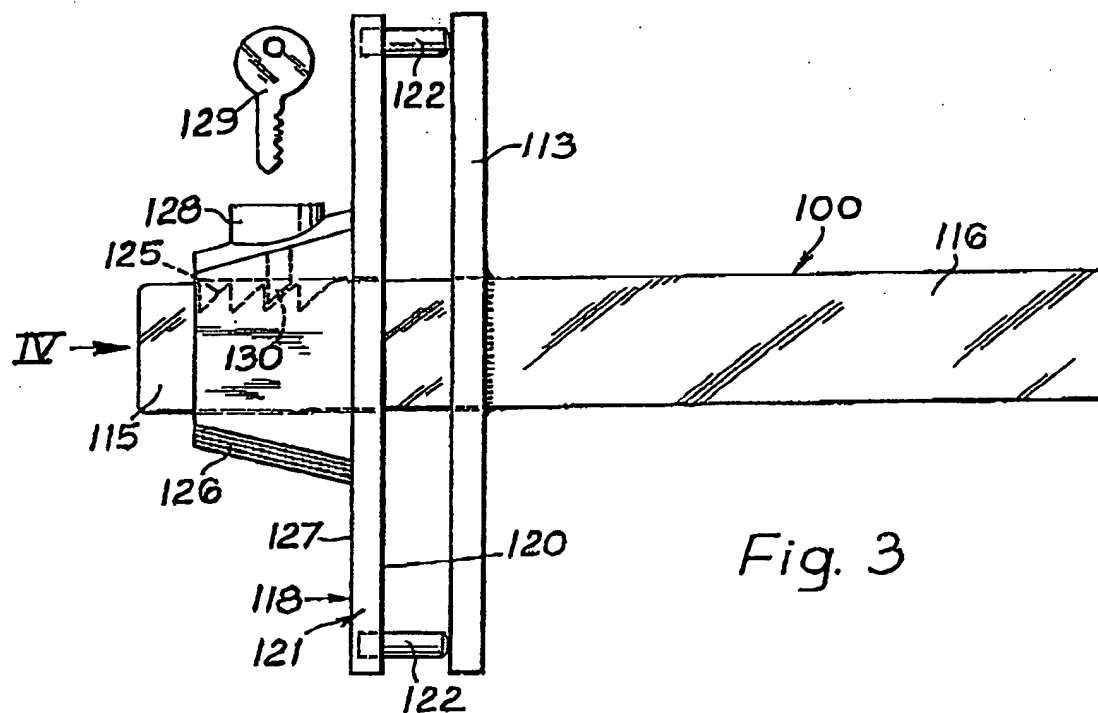
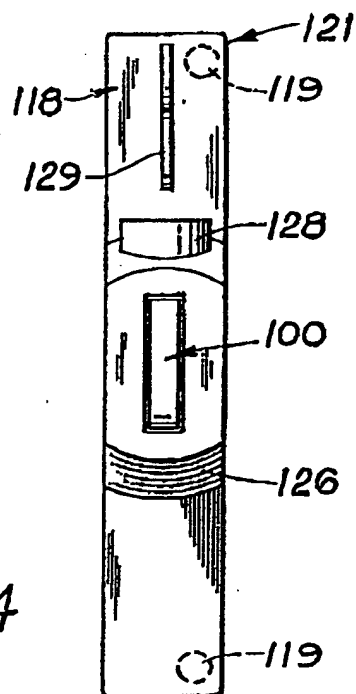


Fig. 4



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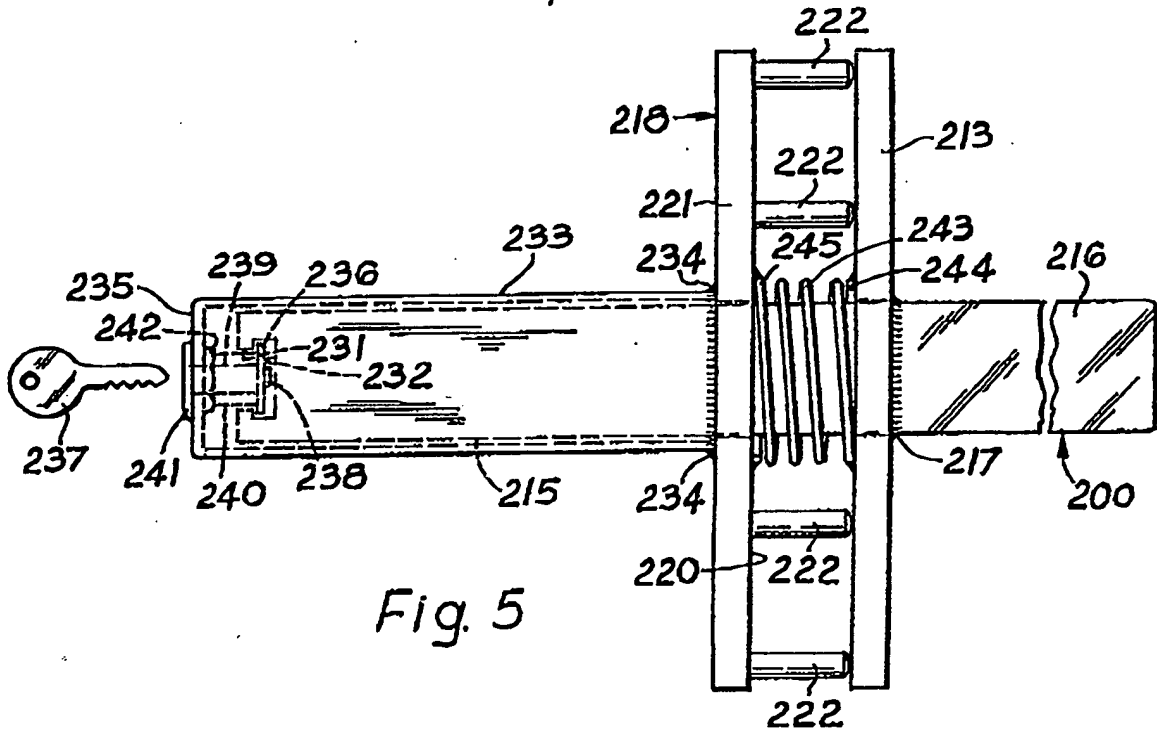


Fig. 5

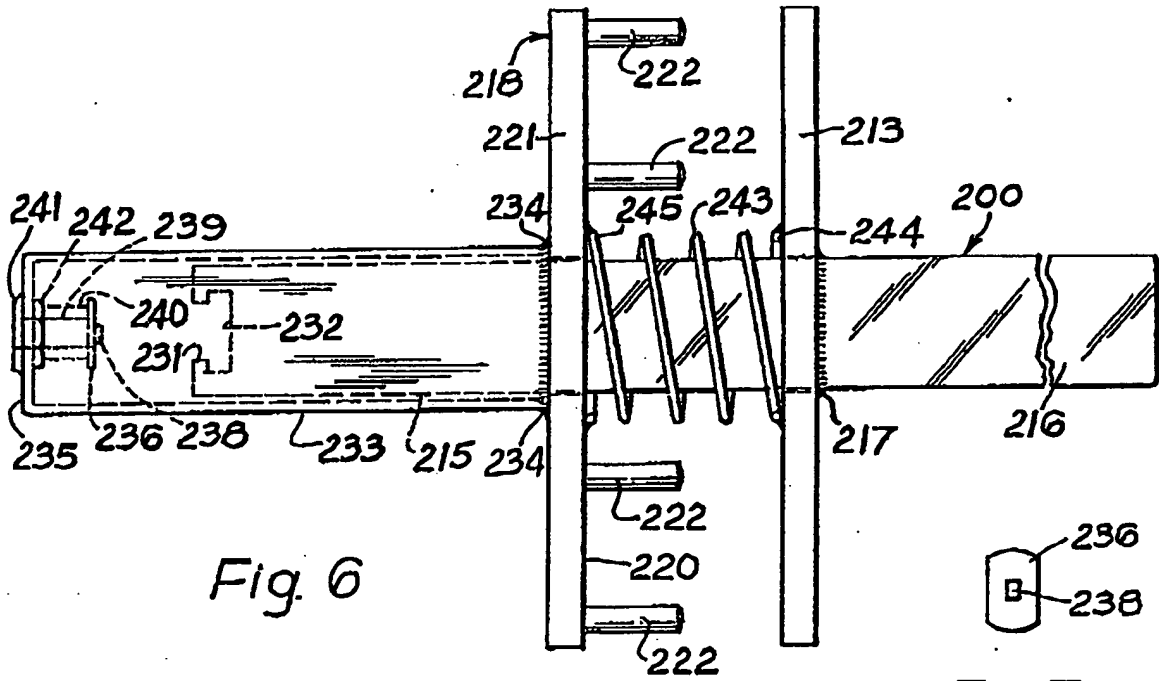


Fig. 6

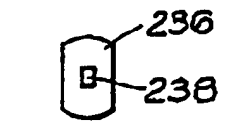


Fig. 7

SPECIFICATION

Anti-theft device for use with motor-cars

This invention relates to an anti-theft device for use with motor-cars.

5 A recurrent crime in modern times is the theft of motor-cars or automobiles, and a great deal of attention has been given to the problem. Motor-cars which are not accommodated overnight in lock-fast premises are especially vulnerable, and the former practices of removing rotor arms, and ensuring that ignition keys were not left in place, do not deter motor-car thieves nowadays, and at the present time reliance has been placed on locking devices which prevent functioning of a component, such as the steering column, essential to the driving of a motor-car. Such anti-theft devices certainly deter the opportunist thief, but the professional thief is prepared potentially to overcome them.

20 The object of the present invention is to provide, for use with motor-cars, an anti-theft device which potentially will deter even the professional thief.

In accordance with the present invention I provide, for use with motor-cars, an anti-theft device comprising a member in the form of a cross and made up of rigid metal bars intersecting one another at right angles, a case-hardened metal lock bar slotted for sliding movement along one arm of the stem of the cross and having proud of its face then nearer the transverse bar of the cross two or four pins of case-hardened metal, one or one pair to each side of said stem, and means for locking the lock bar in position along said one arm, the dimensions of the parts being such that the cross can be positioned with its transverse bar below the foot brake and clutch pedal pads of a motor-car and with said one arm of the stem extending upwards between the two pads, and the lock bar then slid along the upwards-pointing said one arm of the stem and with the pins projecting downwards until the lock bar rests on the foot brake and clutch control levers, and the lock bar locked in such position.

45 Preferably the lock bar has a series of blind holes in the face thereof to be nearer in use of the device to the transverse bar of the cross and into which the pins can be selectively driven.

The locking means may comprise a hole through said one arm of the stem of the cross to be close to the outer face of the lock bar when in position to be locked, and a padlock whereof the hoop can extend through said hole.

Alternatively, the locking means may comprise ratchet teeth on one longitudinal edge of said one arm of the stem of the cross, and a key-operated plunger lock whereof the barrel is fast with the outer face of the lock bar and whereof the plunger has projecting from its inner end a pawl registrable with a ratchet tooth when the plunger is depressed and locked.

In a preferred construction, said one arm of the stem is elongated and has in its free end a shaped recess in which can be held captive or from which

65 can be released a locking plate of a key-operated lock unit mounted in the capped end of a casing freely surrounding said one arm and welded to the lock bar, and a coil compression spring is freely mounted about the stem of the cross between said lock bar and said transverse bar with the end turns of the spring welded to the respective bars, the force of said spring normally thrusting said lock bar away from said transverse bar and enabling said device to be located in operative position relative to or to be removed from the foot brake and clutch control levers, and it being necessary to overcome said force to lock the lock bar in the locking position.

Embodiments of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Fig. 1 is a plan view of an anti-theft device in accordance with the invention;

Fig. 2 is an end elevation in the direction of arrow II in Fig. 1;

Fig. 3 is a plan view of a second anti-theft device in accordance with the invention;

Fig. 4 is an end elevation in the direction of arrow IV in Fig. 3;

Fig. 5 is a plan view of a third anti-theft device in accordance with the invention, in the closed and locked condition;

Fig. 6 is a plan view of the Fig. 5 device in the opened and unlocked condition; and

Fig. 7 is a plan view of the locking plate of the lock unit of the Figs. 5 and 6 device.

Referring firstly to Figs. 1 and 2, the anti-theft device comprises a flat steel bar 10 of length 8 inches (20 centimetres), width 1.2 inches (3.2 centimetres) and thickness 0.4 inch (0.9 centimetre). These dimensions are not critical but are appropriate for the purposes of the invention. Two mutually-spaced round holes 11 and 12, which are centered on the longitudinal axis of the bar 10, extend therethrough between the major faces thereof and towards one end thereof.

A second bar 13, fashioned from the same stock as the bar 10, but of length 6 inches (15 centimetres) has formed therethrough centrally of its length an axial slot 14 dimensioned such that the bar 13 is a sliding fit over the bar 10 when the latter extends through the slot 14. The bar 10 is slid through the slot 14 to a position whereat it projects for about one third of its length from one major face of the bar 13, and for about two thirds of its length from the other major face of the bar 13, to provide a relatively short arm 15 and a relatively long arm 16. The cross-bar 13 is welded to the bar 10 in such disposition of the two bars, as indicated at 17 in Fig. 1, and it will be noted that the holes 11 and 12 extend through the short arm 15. The bars 10, 13 form a Latin cross.

A second cross-bar 18, of the same dimensions as the cross-bar 17 and having a similarly positioned and identically dimensioned axial slot 14, is of case hardened steel. The cross-bar 18 is provided with a series of blind holes 19 (two only are indicated in Fig. 2) in one major face 20 thereof and close to one minor longitudinal face

21 thereof, and hardened steel pins 22 are driven into two selected blind holes 19 to suit the foot brake and clutch pedal control levers of the motor-car with which the device is to be used. Whereas the spacing between these two control levers varies very little between many makes of motor-car, there is variation in design of the control levers themselves and hence the provision for appropriate setting of the pins 22.

In use of the anti-theft device described, the fixed bar arrangement 10, 13 is located with the cross-bar 13 below the foot brake and clutch pedal pads and with the short arm 15 of the bar 10 extending upwards between the two pads. The second cross-bar 18, which functions as a lock bar, is then slid on to the upwardly-pointing short arm 15, with the pins 19 pointing downwards and the minor longitudinal face 21 to the outside, that is forward in relation to the driver's seat, until the cross-bar 18 rests on the foot brake and clutch control levers 23 and 24. The hoop of a good quality padlock is now passed through that one of the holes in the short arm 15 which is closer to the lock bar 18 — the hole 12 in Fig. 1 — and the padlock is locked in that position.

Referring now to Figs. 3 and 4, parts already identified in Figs. 1 and 2 are denoted by like reference numerals increased by 100. This embodiment differs from that first-described in that the short arm 115 of the main bar 100 does not have holes therethrough and instead has ratchet teeth on one longitudinal edge thereof as indicated at 125. A plunger lock, whereof the barrel 126 is fast with the outer major face 127 of the lock bar 118 and has therethrough a longitudinal slot in continuation with the slot in the lock plate has a plunger 128 operated by a key 129 and having projecting from the inner end thereof a pawl 130 which registers with a ratchet tooth when the plunger 128 is depressed and locked.

The outer end of the long arm 116 of the main bar 110 may be formed with a head to increase the bearing area thereof against the floor of the vehicle, thereby to prevent rocking of the device when fitted in position.

Referring now to Figs. 5 to 7, parts already identified in Figs. 1 and 2 are denoted by like reference numerals increased by 200. This embodiment differs from that described with reference to Figs. 1 and 2 in that the arm 215 of the main bar 200 is much longer and has formed in its end a T-shaped recess whereof the stem portion 231 is centred on the axis of the arm 215 and extends from the end of the arm and the head portion 232 is parallel to the end of the arm and is symmetrical about the axis of the arm. The arm 215 is surrounded by an elongate casing 233 in which the arm 215 is free to move in the direction of its axis, the casing 233 having an open end adjacent the proximate face of the lock bar 218 to which it is welded, as at 234, and being closed at its other or lock bar remote end 235 centrally of which is mounted a key-operated lock unit whereof the locking plate 236 (Fig. 7) is shaped to

be engaged in and released from the head portion 232 of the recess in the end of the arm 215 on appropriate turning of the key 237. The locking plate 236 is secured by a nut 238 on the end of a rod 239 turnable in a barrel 240 secured to the end 235 of the casing between an external head 241 and an internal nut 242. The rod 239 extends into the head 241 through a circular hole 242 centrally of the latter, the rod having at its emergent end a slot for the key 237.

The lock bar 221 which in this case has four hardened steel pins 222 mounted thereon is urged with the casing and lock unit away from the bar 13, when the locking plate 236 has been released from the head portion 232 of the recess, by a coil compression spring 243 mounted freely about the bar 210 between the bars 213 and 221 with its end turns 244 and 245 welded to the respective bars 213 and 221. To lock the lock bar 221 in position, with the foot brake and clutch control levers between the respective pairs of adjacent pins 222 on opposite sides of the bar 210, the key 237 is inserted into the key slot and the casing 233 is pressed against the force of the spring 243 until the pins 222 contact the bar 213, the key 237 being then turned to turn the rod 239 and engage the locking plate 236 in the head portion 232 of the recess. The key is then withdrawn from the key slot and the foot brake and the clutch control are immobilised until such time as the key 237 is re-inserted in the key slot and turned to release the locking plate 236 from the head portion 232 of the recess, wherefrom the spring 243 thrusts the lock bar 221 and the casing 233 away from the bar 213 and the anti-theft device can be removed from the foot brake and clutch control levers.

An advantage of the third anti-theft device over the others is that the casing 233 forms a handle enabling manipulation, locking and releasing of the device by the driver from the driver's seat.

CLAIMS

1. For use with Motor-cars, an anti-theft device comprising a member in the form of a cross and made up of rigid metal bars intersecting one another at right angles, a case-hardened metal lock bar slotted for sliding movement along one arm of the stem of the cross and having proud of its face then nearer the transverse bar of the cross two or four pins of case-hardened metal, one or one pair to each side of said stem, and means for locking the lock bar in position along said one arm, the dimensions of the parts being such that the cross can be positioned with its transverse bar below the foot brake and clutch pedal pads of a motor-car and with said one arm of the stem extending upwards between the two pads, and the lock bar then slid along the upwards-pointing said one arm of the stem and with the pins projecting downwardly until the lock bar rests on the foot brake and clutch control levers, and the lock bar locked in such position.

2. An anti-theft device in accordance with claim 1, in which the lock bar has a series of blind

holes in the face thereof to be nearer in use of the device to the transverse bar of the cross and into which the pins can be selectively driven.

3. An anti-theft device in accordance with
5 claim 1 or 2, in which the locking means
comprises a hole through said one arm of the stem
of the cross to be close to the outer face of the
lock bar when in position to be locked, and a
10 padlock whereof the hoop can extend through said
hole.
4. An anti-theft device in accordance with
claim 1 or 2, in which the locking means
comprises ratchet teeth on one longitudinal edge
of said one arm of the stem of the cross, and a
15 key-operated plunger lock whereof the barrel is
fast with the outer face of the lock bar and
whereof the plunger has projecting from its inner
end a pawl registrable with a ratchet tooth when
the plunger is depressed and locked.
- 20 5. An anti-theft device in accordance with
claim 1 or 2, in which said one arm of the stem is
elongated and has in its free end a shaped recess
in which can be held captive or from which can be
released a locking plate of a key-operated lock unit
25 mounted in the capped end of a casing freely
surrounding said one arm and welded to the lock
bar, and a coil compression spring is freely

30 mounted about the stem of the cross between
said lock bar and said transverse bar with the end
of the spring welded to the respective bars, the
force of said spring normally thrusting said lock
bar away from said transverse bar and enabling
said device to be located in operative position
relative to or to be removed from the foot brake
35 and clutch control levers, and it being necessary to
overcome said force to lock the lock bar in the
locking position.

6. An anti-theft device in accordance with any
preceding claim, in which the outer end of the
40 other arm of the stem of the cross is formed with a
head to increase the bearing area thereof against
the floor of the vehicle.

7. For use with motor cars, an anti-theft device
substantially as hereinbefore described with
45 reference to Figs. 1 and 2 of the accompanying
drawings.

8. For use with motor cars, an anti-theft device
substantially as hereinbefore described with
reference to Figs. 3 and 4 of the accompanying
50 drawings.

9. For use with motor cars, an anti-theft device
substantially as hereinbefore described with
reference to Figs. 5 to 7 of the accompanying
drawings.